

Notice of Allowability

Application No.

09/910,604

Examiner

Nelson D. Hernandez

Applicant(s)

HARADA, KOUICHI

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendments filed on May 21, 2007.
2. ☒ The allowed claim(s) is/are 1,2,5-7 and 9-19 (Renumbered as 1-16).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 4/11/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20070607.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amended claims filed on May 21, 2007. **Claims 1, 2, 6, 7, 9 and 11** have been amended. **Claims 3, 4 and 8** have been canceled. **Claims 18 and 19** have been newly added.

Response to Arguments

2. Applicant's arguments, see pages 16-20, filed on May 21, 2007, with respect to **claims 1, 2, 5-7, and 9-17** have been fully considered and are persuasive. The rejections of **claims 1, 2, 5-7, and 9-17** have been withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Bestor (Agent on record, Reg. No. 58439) on June 6, 2007.

The application has been amended as follows:

Claim 11, (Currently amended) A solid-state image apparatus comprising:

an image section having a plurality of pixels arranged two dimensionally in the horizontal direction and in the vertical direction,

the image section comprising a first area formed of a first pixel group and a second area formed of a second pixel group, said first pixel group is comprised of a first plurality of immediately adjacent pixels in both the vertical and horizontal direction; and said second pixel group is comprised of a second plurality of immediately adjacent pixels in both the vertical and horizontal direction, the first area and the second area being disposed adjacent to each other in the horizontal direction;

a first electric-charge transfer section disposed outside the image area for transferring the signal electric charges of the first area in the horizontal direction, said first electric-charge transfer section does not extend across the entire width of the image section;

a second electric-charge transfer section extending across the entire width of the image section and disposed outside the image area for transferring the signal electric charges of the second area in the horizontal direction; and

further comprising a vertical transfer section for transferring the signal electric charges of the second area to the second electric-charge transfer section without passing through the first electric-charge transfer section; and

driving means for driving the first and second electric-charge transfer sections in an identical direction,

wherein the first and second electric-charge transfer sections are disposed such that the first electric-charge transfer section transfers only the signal electric charges of the first area and the second electric-charge transfer section transfers only the signal electric charges of the second area.

Claim 12, (Currently Amended) A solid-state image apparatus comprising:

an image section having a plurality of pixels arranged two dimensionally in the horizontal direction and in the vertical direction,

the image section comprising a plurality of areas each comprised of a group of pixels, each group of pixels is comprised of a plurality of immediately adjacent pixels in both the vertical and horizontal direction; the plurality of areas being arranged adjacent in the horizontal and/or vertical direction;

a plurality of electric-charge transfer sections disposed outside the image area for transferring the signal electric charges of each of the plurality of areas, respectively, in the horizontal direction, wherein at least one of the electric-charge transfer sections extends across the entire width of the image section, and at least another of the electric-charge transfer sections does not extend across the entire width of the image section;
and

driving means for driving the plurality of electric-charge transfer sections in an identical direction,

wherein the plurality of electric-charge transfer sections are disposed such that each electric-charge transfer section transfers only the signal electric charges of one of said plurality of areas.

Allowable Subject Matter

4. **Claims 1, 2, 5-7, and 9-19 (Renumbered as 1-16)** are allowed.
5. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, that the first electric-charge transfer section is disposed between the first area and the second electric-charge transfer section, and wherein the vertical transfer section is disposed between the second area and the second electric-charge transfer section, and wherein all of the pixels in any one column of said image section to be read out of the solid-state image apparatus are transferred to only one of said first electric-charge transfer section and said second electric-charge transfer section.

Regarding claim 5, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, a second electric-charge transfer section extending across the entire width of the image section and disposed outside the image area for transferring the signal electric charges of the second area in the horizontal direction; and a vertical transfer section for transferring the signal electric charges of the second area to the second electric-charge transfer section, wherein the first electric-charge transfer section is disposed between the first area and the second electric-charge transfer section, and the vertical transfer section is disposed between the second area and the second electric-charge transfer section, and wherein all of the pixels in any one column of said image section to be read out of the solid-state image apparatus are transferred to only

one of said first electric-charge transfer section and said second electric-charge transfer section.

Regarding claim 6, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, a step of transferring the signal electric charges of the second area to the second electric-charge transfer section without passing through the first electric-charge transfer section via a vertical transfer section thereby transferring the signal electric charges of the second area to the second electric-charge transfer section without passing through the first electric-charge transfer section, wherein the first electric-charge transfer section is disposed between the first area and the second electric-charge transfer section, wherein the vertical transfer section is disposed between the second area and the second electric-charge transfer section, and wherein all of the pixels in any one column of said image section to be read out of the solid-state image apparatus are transferred to only one of said first electric-charge transfer section and said second electric-charge transfer section.

Regarding claim 7, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, a vertical transfer section for transferring the signal electric charges of the second area to the second electric-charge transfer section; an optical system for guiding incident light to the image section of the solid-state, image apparatus; and a signal processing circuit for combining output signals of the solid-state image apparatus to generate a signal corresponding to signal electric charges of one line in the image

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section, wherein the first electric-charge transfer section is disposed between the first area and the second electric-charge transfer section, and the vertical transfer section is disposed between the second area and the second electric-charge transfer section, and wherein all of the pixels in any one column of said image section to be read out of the solid-state image apparatus are transferred to only one of said first electric-charge transfer section and said second electric-charge transfer section.

Regarding claim 9 (Renumbered as claim 8), the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, the first and second electric-charge transfer sections are disposed such that the first electric-charge transfer section transfers only the signal electric charges of the first area and the second electric-charge transfer section transfers only the signal electric charges of the second area; wherein the first electric-charge transfer section is disposed between the first area and the second electric-charge transfer section, and wherein the vertical transfer section is disposed between the second area and the second electric-charge transfer section, and wherein the electric charges of said first area are transferred directly from said first area to said first electric-charge transfer section without passing through any additional vertical transfer section between the first image area and the first electric-charge transfer section.

Regarding claim 11 (Renumbered as claim 13), the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, a first electric-charge transfer section

disposed outside the image area for transferring the signal electric charges of the first area in the horizontal direction, said first electric-charge transfer section does not extend across the entire width of the image section; a second electric-charge transfer section extending across the entire width of the image section and disposed outside the image area for transferring the signal electric charges of the second area in the horizontal direction; and further comprising a vertical transfer section for transferring the signal electric charges of the second area to the second electric-charge transfer section without passing through the first electric-charge transfer section; and driving means for driving the first and second electric-charge transfer sections in an identical direction, wherein the first and second electric-charge transfer sections are disposed such that the first electric-charge transfer section transfers only the signal electric charges of the first area and the second electric-charge transfer section transfers only the signal electric charges of the second area.

Regarding claim 12 (Renumbered as claim 15), the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the element of the present claim, a plurality of electric-charge transfer sections disposed outside the image area for transferring the signal electric charges of each of the plurality of areas, respectively, in the horizontal direction, wherein at least one of the electric-charge transfer sections extends across the entire width of the image section, and at least another of the electric-charge transfer sections does not extend across the entire width of the image section; and driving means for driving the plurality of electric-charge transfer sections in an identical direction, wherein the plurality of

electric-charge transfer sections are disposed such that each electric-charge transfer section transfers only the signal electric charges of one of said plurality of areas.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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NDHH
June 7, 2007



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